CLAIMS

I claim:

1. A differential radio comprising:

a differential antenna having an input and an output;

a differential duplexer, generating two receiving signals and receiving two transmitting signals, electrically connected to the input and output of the differential antenna;

a differential low noise amplifier, receiving the two receiving signals, generating two LNA signals;

a first differential filter receiving the two LNA signals and generating a first differential filter signal;

a first differential mixer receiving the first differential signal and generating a first differential mixer output signal;

a signal conditioning circuit, receiving the first differential mixer output signal, generating a conditioned differential signal;

a second differential mixer, receiving the conditioned differential signal, generating a second differential mixer output signal;

a second differential filter, receiving the second differential mixer output signal, generating a second differential filter signal; and

a differential power amplifier receiving the second differential filter signal and generating the two transmitting signals.

2. A differential radio as in claim 1, wherein the duplexer is an FBAR.

3. A differential radio as in claim 1, wherein the differential antenna is a Yagi-Uda.

4. A differential radio as in claim 3, wherein the differential antenna is incorporated into a printed circuit board.

5. A differential radio as in claim 1, the differential power amplifier comprising:

an input matching network having a differential input and a first and second IMN output;

a first field effect transistor (FET), having a gate connected to the first IMN output;

a first capacitor, connected to the drain of the first FET;

a second FET, having a gate connected to the first capacitor;

a third FET, having a source connected to the source of the second FET at a first node;

an output matching (OMN), having a first input connecting to the drain of the second FET and a second input connecting to the drain of the third FET;

a first inductor connecting between the first node and ground;

a second capacitor connected to the gate of the third FET;

a fourth FET having a drain connected to the second capacitor, a gate connected to the second IMN output, a source connected to the source of the first FET at a second node; and

a second inductor connects between node B and ground.

6. A differential radio as in claim 5, wherein the duplexer includes film bulk acoustic resonators.

7. A differential radio as in claim 5, wherein the differential antenna is incorporated into a printed circuit board.